

ON CONVULSIVE TIC WITH EXPLOSIVE
DISTURBANCES OF SPEECH (SO-CALLED
GILLES DE LA TOURETTE'S DISEASE).

BY C. L. DANA, M.D., AND W. P. WILKIN, M.D.

DEFINITION.—The affection above indicated is characterized by sudden convulsive movements accompanied with inarticulate foul or profane ejaculations.

HISTORY.—Described by Bouteille in 1818 in his "Traité de Chorée."

A case reported in 1825 by Itard, quoted later by Tourette.

Somewhat similar cases referred to by Trousseau in his "Clinique Medicale," vol. ii., 5th ed., p. 267.

The Jumpers of Maine, believed to be cases of the same kind, described by Dr. Geo. M. Beard in 1880, *JOURN. NERV. AND MENT. DIS.*, vol. vii., and by Dr. G. B. Thornton, *Med. Record*, Dec. 26, 1885.

The Myriachit of Siberia, a similar disease, was described by Dr. Wm. A. Hammond in 1884.

The Latah of the Malayese, and a similar affection in Kamskatcha, are referred to by Beard, Hammond, and Tourette. The disease has been described by a non-medical man only, Mr. O'Brien, but it is thought to be identical with convulsive tic.

In 1884, M. Gilles de la Tourette collected previous observations and reported a case of his own (*Arch. de Neurol.*, July, 1884).

In 1885 this same author (*Archives de Neurol.*, January and March, '85) presented and analyzed nine cases observed in France.

He described his cases under the title, "A Nervous Affection Characterized by Motor Incoördination, Accompanied with Echolalia and Coprolalia."

In January, 1886 (*Rev. de Médecine*), Dr. Geo. Guinon reported four more cases. These included two cases on whom M. Charcot delivered a clinical lecture published in *la Riforma medica*, Nos. 184, 185, and 186. Guinon's cases resembled Tourette's, but showed more mental impairment—two of them having *idées fixes*.

In March 1886, Dr. I. I. Pautynkhoff reported (*Russkaya Meditzina*, March 16th) "a case of imitative disease," resembling those of Tourette's, the patient showing echolalia and echokinesis (imitation of speech and movement). Patient had defective intelligence.¹

M. Lannois ("Nosographie des Chorea," 1886) makes some comments upon this affection, but contributes nothing new.

Dr. T. C. Railton (*Medical Chronicle*, April, 1886) describes a very typical case.

As no case of the *tic convulsif* observed and described by Tourette and Guinon has as yet been reported in this country (aside from the general descriptions of the Jumpers), we have thought that the following case would be of interest and might call the attention of physicians to a disorder of a quite well-marked type, but as yet, not at all well or widely known.

The history of our patient is as follows :

CASE I.—M. W., boy, twelve years, U. S. Parents healthy ; brothers and sisters healthy—excepting one sister who is of a nervous hysterical temperament.

This boy has been backward in development, both physical and mental. Has always been of an irritable, excitable, and impetuous temperament. Has had three convulsions, the first in first year, the second in second year, and the third when six years old ; none since that time. In his studies he is very backward ; was unable to advance beyond the alphabet for several years.

Last Christmas he fell and sprained his foot, since when he developed the trouble which forms the subject of this paper.

¹ I am greatly indebted to the courtesy and linguistic attainments of Dr. Thomas A. Stedman, who translated this interesting case in full for me.—C. L. D.

His parents gave the following history : He had never been profane or obscene in his language up to about December last. It was then noticed that when sitting quietly he would suddenly and involuntarily burst out into expressions of the most profane and obscene character ; repeating them rapidly for a few moments and then stopping. A surprise or sudden noise of any kind was liable to bring on an outburst. He did not seem to understand the significance of the words used. It was necessary to send him from school, as besides disturbing the other scholars his example was, of course, hurtful.

The word which he used oftenest, repeating it rapidly and automatically, was the equivalent of the French word "*merde*," which is the word quoted by Tourette as most frequently expressed by his patients. He used to be much worse mornings, and before or during his toilet would regale the house with his automatic blasphemies so loudly as to disturb the neighbors.

Besides this condition of coprolalia he developed echolalia, though to a lesser extent.

He would repeat not only the last words but the ends of sentences ; and do it automatically imitating to a considerable degree the tone and accent as well as the words of the speaker.

Besides this the patient seemed forced to utter confessions of the things that he most wanted to conceal. When he found that he has thus automatically exposed his own misdeeds, he tried to make up for it by denials. The boy was a good liar. As an illustration of the forced confession which he made, his brother stated that on one occasion when his mother was away he broke a dish. He asked his brother not to tell about it, and a plan of concealment was arranged. The moment the mother appeared, however, the boy burst out : "I broke the dish." Then realizing his mistake, he added, quickly : "No, I did n't, either."

When examined by us he was observed to be anaemic, but fairly well grown and nourished. He has choreic movements in the face, and slight convulsive movement in legs and arms. When he is making a strong effort to repress the obnoxious words, or when he is under any restraint, the movements are more prominent. The choreic movements, as stated, affect his face and shoulders most. He had also a kind of expiratory spasm, producing a noise like a half-developed cough. If more marked, it might be put down as an illustration of laryngeal chorea.

The history showed that at first the speech disturbances were most marked, later the convulsive movements were prominent, and finally the speech disturbance nearly disappeared and the movements alone were noticed. This is the reverse of the order noted in Tourette's cases.

He has no ataxia or other sensory disturbances.

His reflexes were normal. His vision was apparently normal to ordinary tests. Urine normal. Appetite and sleep normal. The fact that the boy's language and behavior were the evidence of disease became very manifest to the parents. At first he was

soundly and systematically punished. It was found, however, that just as soon as the flogging was over, the boy would look up and repeat the same obscenities.

The treatment has been simple and quite effective ; it consisted essentially of iron, arsenic, and bromide potassium.

The GENERAL HISTORY of the disease is as follows :

It begins, as a rule, in children between the ages of six and sixteen years, and affects, by preference, the masculine sex. There is almost always a neurotic family history. In Maine, the disease is an hereditary, or family one.

The exciting cause is generally unknown, but sometimes powerful emotions start up the symptoms. Tickling is said, by Dr. Thornton, to be the cause of the Jumpers.

If we admit the unity of the various disorders already referred to, climate and race plainly have something to do with its prevalence.

The disease begins almost without exception by attacks of motor incoördination, affecting generally the head, face and upper extremities first, then involving the whole body. The movements can be controlled for a time by the will, only to break out with increased violence later. They cease entirely during sleep, which is generally very profound. M. Gilles de la Tourette states that the disease always begins with the motor disturbances, and that the symptoms may remain limited to the motor sphere. But this is not always the case evidently, as was shown by our patient, in whom the psychical symptoms developed first, and at first greatly predominated.

The physical condition of these patients is good ; sleep, appetite, and general nutrition are not seriously impaired.

The mental state is also, as a rule, good, but a few of the patients have some mental defect. The patients are perfectly aware of the incongruity of their expressions. They can even control their movements and language for a time. No disturbance of the special senses, and no other neuroses, such as hysteria and epilepsy, are known to be associated with the disease.

The most striking and peculiar feature of the disorder is that which relates to the speech.

After having suffered from attacks of motor incoördination for a time, the patient will, with the attacks, utter inarticulate cries, or he may begin to repeat or echo the words that he overhears. All this is done automatically and suddenly, with the accompaniment of grimaces and muscular contortions.

This echoing of speech is accompanied by an echoing of gestures (echokinesis).

Tourette records the curious illustration of a young woman suffering from this disorder who retired to rest one night, when a dog began to bark under her window. The unfortunate patient echoed the bark, which the dog took up in turn, and, against her will, she was kept barking the greater part of the night.

A still further peculiarity of this disease, and one which Tourette regards as pathognomonic, is the sudden interjection by the patient of obscene words and expressions. This symptom is the last in the series, and was observed in five out of nine cases. It was not noted by Beard or Hammond, but has been observed by Mr. O'Brien in his description of Latah.

It appears to us that the explosive and automatic character of speech disturbances is more the essential feature than the echoing or obscenity. It is as if the inhibition were removed from the lower and interjectional speech centres, leaving them over-sensitive and responsive.

A characteristic not noted by Tourette is the imperative and explosive utterances of things most desired to be kept secret, as was illustrated in our case.

The disease is a chronic one, beginning insidiously and lasting for years, sometimes for a long lifetime.

Beard said, "Once a Jumper, always a Jumper." None of Tourette's cases were cured, though some were very greatly ameliorated.

The diagnosis of the disease is not difficult. From chorea it is distinguished by the suddenness and larger range of the involuntary movements, and by the fact that a muscular explosion is followed and preceded by complete quiet. From so-called diaphragmatic and laryngeal chorea it is di-

agnosticated, according to Tourette, by the fact that in the disease he describes the cry is always accompanied by a muscular convulsion.

Echolalia and coprolalia may form part of the symptoms of insanity, and coprolalia has been observed in post-hemiplegic aphasia. It is hardly necessary to show how easily these conditions can be differentiated.

The coprolalia is pathognomonic of the disease, according to Tourette.

As to the pathology of the disease, from its long continuance we can exclude any organic lesion; and from the general history it is apparent that it belongs to the neuro-degenerative disorders. It is an evidence, like epilepsy and paranoia, of family decay.

While the disease is certainly far removed from the ordinary chorea of Sydenham, which is a subacute disease, and runs a definite course, yet it does seem that some of these cases are closely allied to certain aberrant and peculiar forms of chronic chorea not unfrequently met with. Thus, one of us has now under observation a boy with chronic chorea, which has lasted, with some intermission, for three years. This boy, at one period, was a "jumper," although his movements were not nearly so violent as those described by Beard and Tourette. In another case of chronic chorea, the boy was often seized with violent incoordinate movements. It may be, therefore, that we shall find cases shading all the way from well-marked Latah or Myriachit to something like chronic chorea.

In the treatment, one measure has proved of marked value, and that is isolation. Tonics, bromides, arsenic, electrotherapy, have caused some amelioration.

In our own case, bromides, arsenic, and iron have produced great improvement.